

Message Text

UNCLASSIFIED

PAGE 01 STATE 006902
ORIGIN ERDA-07

INFO OCT-01 NEA-10 ISO-00 OES-06 SS-15 FEA-01 NRC-07 NSF-02
AID-05 CEA-01 CIAE-00 CIEP-02 COME-00 DODE-00 EB-07
FPC-01 H-02 INR-07 INT-05 L-03 NSAE-00 NSC-05 OMB-01
PM-04 USIA-15 SP-02 STR-04 TRSE-00 ACDA-10 /123 R

DRAFTED BY USERDA/AIA/OIRDP:TP:RICHORD:MM
APPROVED BY OES/NET:DBHOYLE
USERDA/AIA/OIRDP:JVANDERRYIN
USERDA/AIA/OIRDP/TP:HJAFJE
OES/NET/IM:MPROCHNIK
D - R. POATS
NEA/IRN - MR. BEALES
NEA/ARP - C. CECIL (IN
S/S - MR. SEBASTIAN

-----122211Z 022374 /62

P 122039Z JAN 77
FM SECSTATE WASHDC
TO AMEMBASSY TEHRAN PRIORITY
INFO AMEMBASSY JIDDA PRIORITY

UNCLAS STATE 006902

TEHRAN PLEASE PASS TO ROBERT LIIMATAINEN, SCIATT

E.O. 11652: N/A

TAGS: TECH

SUBJECT: REPORT OF IRANIAN SOLAR ENERGY TEAM VISIT

1. SUMMARY: IRANIANS SEEMED GENERALLY PLEASED WITH THE
VISIT; HOWEVER, WERE RELUCTANT TO IDENTIFY SPECIFIC
COOPERATIVE PROJECTS OF INTEREST. SABSOVARI AT
DECEMBER 17 MEETING EXPRESSED HIS VIEL OF PRIORITIES:
(1) HEATING AND COOLING, (2) CONSERVATION, (3) TOTAL
UNCLASSIFIED

UNCLASSIFIED

PAGE 02 STATE 006902

ENERGY SYSTEMS FOR SMALL VILLAGES, (4) SOLAR CELLS, AND
(5) IRRIGATION APPLICATIONS. VODJANI INDICATED THEY
WOULD SUBMIT REPORT TO INTER-MINISTERIAL COMMITTEE ON
SOLAR ENERGY, WHICH MEETS ONCE A MONTH. REPORT MAY
REFLECT OSTENSIBLY STRONG SENTIMENT BY ALL THREE
MEMBERS THAT LARGE CENTRAL RECEIVER SYSTEMS ARE NOT
PRESENTLY SUITABLE FOR IRAN. VODJANI SAID HE WOULD

CONTACT ERDA THROUGH LIIMATAINEN FOLLOWING COMMITTEE ACTION ON REPORT RECOMMENDATIONS. LARIJANI IN DECEMBER 6 MEETING MENTIONED INTEREST IN RETURN VISIT BY U.S. TEAM.

2. HEATING AND COOLING: IRANIANS WERE VERY IMPRESSED WITH THE WORK AT COLORADO STATE IN HEATING AND COOLING.

CONSIDERABLE OPPORTUNITIES EXIST IN IRAN FOR SOLAR HEATING AND COOLING APPLICATIONS SINCE GOVERNMENT IS INVOLVED IN MAJOR CONSTRUCTION PROJECTS. THE MINISTRY OF HOUSING IS COMMITTED TO A PROGRAM OF INSTALLING FLAT-PLATE COLLECTORS ON ONE THOUSAND BUILDINGS. ERDA WOULD APPRECIATE FURTHER INFORMATION ON THIS PROJECT. SPECIAL INTEREST EXPRESSED BY VODJANI AND SABSOVARI IN PASSIVE AS WELL AS ACTIVE SYSTEMS. THE IRANIANS MENTIONED AN "ARSAM" EDUCATIONAL PROJECT WHERE THE U.S. ARMY CORPS IS REPORTEDLY INSTALLING SOLAR COLLECTORS. WE ARE UNABLE TO IDENTIFY WITH CERTAINTY THIS PROJECT, BUT BELIEVE IT MAY REFER TO CONSTRUCTION OF AN AIRBORNE SCHOOL AT TABUK, SAUDI ARABIA.

3. TOTAL ENERGY SYSTEMS: A PRINCIPAL INTEREST OF MERC, WHICH HAS A TWO MILLION BUDGET IN 1976 AND IS EXPECTED TO RECEIVE GOVERNMENT FUNDING OF SIX MILLION IN 1977, IS THE DEVELOPMENT OF TOTAL ENERGY SYSTEMS FOR SMALL, REMOTE VILLAGES. SOLAR INSOLATION IS GREATEST IN THE SOUTHEASTERN PART OF THE COUNTRY, WHICH USES ONLY TWO PERCENT OF TOTAL COMMERCIAL ENERGY CONSUMPTION AND WHERE OVER TWO THOUSAND VILLAGES HAVE FIFTY PEOPLE OR LESS. MERC IS COOPERATING

UNCLASSIFIED

PAGE 03 STATE 006902

WITH FRANCE'S CNRS IN A TWO-YEAR PROJECT TO DEVELOP A ONE HUNDRED KW PILOT PLANT FOR A TYPICAL VILLAGE OF FIFTY-TWO HUNDRED PEOPLE.

4. SOLAR CELLS: IRANIAN TEAM EXPRESSED INTEREST IN PHOTOVOLTAIC R AND D. MERC IS PRESENTLY DOING SOME TESTS WITH SILICON CELLS. THE GOVERNMENT IS DEVELOPING REMOTE COMMUNICATION STATIONS THROUGHOUT THE COUNTRY THAT COULD BE POWERED BY SOLAR CELL ARRAYS. GOVERNMENT LEADERS HOWEVER WANT TO BE CONVINCED OF THE VIABILITY OF PHOTOVOLTAIC SYSTEMS BEFORE CHANGING FROM TRADITIONAL DIESEL-POWERED GENERATORS. MERC IS ALSO RUNNING TESTS ON A FRENCH PHOTOVOLTAIC PUMP. RESULTING EFFICIENCIES OF TWO PERCENT CONFIRM THE EXCESSIVELY HIGH COST OF THIS SYSTEM.

5. IRRIGATION APPLICATIONS: AN ADEQUATE SUPPLY OF WATER FOR IRRIGATION IS A CRITICAL PROBLEM IN IRAN. THE IRANIAN TEAM EXPRESSED STRONG INTEREST IN SOLAR ENERGY SYSTEMS FOR IRRIGATION. SABSOVARI HAS PERSONAL INTEREST

AND EXPERIENCE IN WIND ENERGY (HAVING DONE WORK AT U.S. UNIVERSITIES IN AERONAUTICAL ENGINEERING),

AND VERTICAL-AXIS WIND MACHINES HAVE LONG BEEN USED IN IRAN. COOPERATION IN SMALL-SCALE, WIND-IRRIGATION SYSTEMS THEREFORE MAY BE OF MUTUAL INTEREST. MERC IS NOT PERFORMING ANY RESEARCH IN WIND SYSTEMS.

6. SOLAR THERMAL: AT THE SOLAR ENERGY RESEARCH CENTER AT PAHLEVI UNIVERSITY IN SHIRAZ (CURRENT FUNDING LEVEL ABOUT ONE MILLION), PAPER STUDIES ARE BEING INITIATED ON ONE MW AND TEN MW THERMAL SYSTEMS. AFTER VIEWING THE WORK AT SANDIA, THE GENERAL REACTION OF VODJANI, LARIJANI AND SABSOVARI WAS THAT THESE SYSTEMS WERE TOO LARGE AND COMPLEX FOR IRAN AT PRESENT. UNDERLYING THIS REACTION WAS A FEELING THAT IRAN SHOULD DEVELOP ITS SOLAR TECHNOLOGIES ITSELF AND SHOULD AVOID IMPORT-
UNCLASSIFIED

UNCLASSIFIED

PAGE 04 STATE 006902

ING SUBSTANTIAL AMOUNTS OF FOREIGN TECHNOLOGY AND PERSONNEL. IN THIS REGARD, THEY EXPRESSED SEVERAL TIMES THEIR INTEREST IN COOPERATIVE PROGRAMS FOR TRAINING IRANIANS IN SOLAR TECHNOLOGY.

7. BIOMASS CONVERSION: SOME INTEREST WAS EXPRESSED IN BIOMASS CONVERSION. VODJANI MENTIONED THAT THE GOVERNOR OF LARISTAN WAS ACTIVELY PROMOTING METHANE GENERATORS FOR RURAL VILLAGES AND HAD BUILT A NUMBER OF DEMONSTRATION UNITS.

8. OTEC: THE IRANIAN TEAM BELIEVED THAT OTEC WAS NOT APPROPRIATE FOR IRAN, GIVEN ITS SHALLOW COASTAL WATERS. THEY ALSO SHOWED NO INTEREST IN DEEP-WATER PROCESSING APPLICATIONS (E.G. FERTILIZER, HYDROGEN).

9. GENERAL S AND T TRANSFER: ON DECEMBER 17 VODJANI MET WITH F. BETZ, R. COLTON, A. PARDEE, W. THOMPSON, AND P. MURPHY OF THE NATIONAL SCIENCE FOUNDATION TO DISCUSS GENERAL ISSUES OF NATIONAL S AND T POLICY. VODJANI IS PRESENTLY WRITING A PAPER ON IRANIAN S AND T POLICY, THE MAIN FOCUS OF WHICH IS THE PROBLEM OF HOW TO MOBILIZE DOMESTIC RESEARCH CAPABILITIES (THE LARGE NUMBER OF PH.D.'S IN IRAN'S UNIVERSITIES) TO PROMOTE INDIGENOUS TECHNOLOGY DEVELOPMENT. IN THIS REGARD, HE WAS INTERESTED IN INFORMATION ON VARIOUS MODELS FOR LINKING UNIVERSITY,

GOVERNMENT, AND PRIVATE INDUSTRY ACTIVITIES IN S AND T.

THE QUESTION OF 'APPROPRIATE TECHNOLOGY" WAS DISCUSSED, WITH VODJANI EMPHASIZING A CONCERN WITH HOW TO BREAK DERIVATIVE PATTERNS OF TECHNOLOGY TRANSFER AND DEVELOPMENT. ALTHOUGH VODJANI CLAIMED THAT HE HAD NOT HEARD ABOUT THE U.N. CONFERENCE ON SCIENCE AND TECHNOLOGY
UNCLASSIFIED

UNCLASSIFIED

PAGE 05 STATE 006902

FOR DEVELOPMENT, IT IS POSSIBLE THAT HE MAY BE RESPONSIBLE FOR WRITING THE IRAN 'COUNTRY PAPER., HE INDICATED HIS INTEREST IN WORKING WITH NATIONAL SCIENCE

FOUNDATION IN HIS STUDY. HE ALSO PLANS TO VISIT JAPAN, WHICH NATIONAL SCIENCE FOUNDATION REPRESENTATIVES CITED AS AN IMPORTANT MODEL OF SELECTED ADOPTION AND ADAPTATION OF WESTERN TECHNOLOGY.

10. POSSIBLE USIA ARTICLE ON VISIT: USIA (CARLOS MONTOYA) REQUESTED AN INTERVIEW WITH THE IRANIAN TEAM WHEN THEY RETURNED TO WASHINGTON ON DECEMBER 17. SINCE THE ONLY GOVERNMENT MEMBER OF THE TEAM, LARIJANI, DEPARTED EARLY FOR LONDON (DUE TO FLIGHT SCHEDULING PROBLEMS) AND DID NOT RETURN TO D.C., THE IRANIANS DECLINED THE INTERVIEW. ON DECEMBER 21, MONTOYA INDICATED THEY STILL MAY PROCEED WITH AN ARTICLE ON THE VISIT. HE HAS BEEN IN CONTACT WITH VARIOUS CONTRACTORS AND LABORATORIES VISITED DURING THE RIP.

11. CONCLUSION: IRANIANS CONSIDERED TRIP EXTREMELY VALUABLE EVEN THOUGH THEY ARE PRIMARILY INTERESTED IN SMALL-SCALE SYSTEMS THAT WILL IMPROVE LIVING CONDITIONS IN RURAL VILLAGES. ERDA NOTED THAT ALTHOUGH THEIR ITINERARY WAS ORIENTED TOWARD CENTRALIZED SYSTEMS, THERE ARE NUMEROUS FIRMS IN THE U.S. DOING WORK IN SMALL-SCALE, DECENTRALIZED SYSTEMS. ERDA OFFERED TO HELP THE IRANIANS MAKE CONTACT WITH THESE COMPANIES. THE VIEW WAS ALSO EXPRESSED THAT ERDA IN THE FUTURE MAY MOVE TO A MORE BALANCED PROGRAMMATIC EMPHASIS BETWEEN CENTRALIZED AND DECENTRALIZED SYSTEMS. THE BASIC CONCLUSION FROM THE VISIT IS THAT IRAN SEEKS A CAPABILITY TO DEVELOP AND PRODUCE SMALL-SCALE SYSTEMS ITSELF. THE GOI IS, THEREFORE HIGHLY INTERESTED IN U.S. TRAINING
UNCLASSIFIED

UNCLASSIFIED

PAGE 06 STATE 006902

OF IRANIANS IN SOLAR TECHNOLOGIES. THIS ORIENTATION,

IF REPRESENTATIVE OF OFFICIAL IRANIAN POLICY, MAY

LIMIT THE ATTRACTIVENESS OF THE IRANIAN MARKET FOR U.S.
COMPANIES PRODUCING SOLAR ENERGY PRODUCTS.
KISSINGER

UNCLASSIFIED

NNN

Message Attributes

Automatic Decaptioning: X
Capture Date: 01-Jan-1994 12:00:00 am
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: REPORTS, CONSULTANTS, VISITS, SOLAR POWER
Control Number: n/a
Copy: SINGLE
Sent Date: 12-Jan-1977 12:00:00 am
Decaption Date: 01-Jan-1960 12:00:00 am
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01-Jan-1960 12:00:00 am
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1977STATE006902
Document Source: CORE
Document Unique ID: 00
Drafter: TP:RICHORD:MM
Enclosure: n/a
Executive Order: N/A
Errors: N/A
Expiration:
Film Number: D770012-0483
Format: TEL
From: STATE
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1977/newtext/t19770158/aaaabyog.tel
Line Count: 229
Litigation Code IDs:
Litigation Codes:
Litigation History:
Locator: TEXT ON-LINE, ON MICROFILM
Message ID: 6d4e70da-c288-dd11-92da-001cc4696bcc
Office: ORIGIN ERDA
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 5
Previous Channel Indicators: n/a
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: n/a
Retention: 0
Review Action: RELEASED, APPROVED
Review Content Flags:
Review Date: 16-Sep-2004 12:00:00 am
Review Event:
Review Exemptions: n/a
Review Media Identifier:
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
SAS ID: 3613075
Secure: OPEN
Status: NATIVE
Subject: REPORT OF IRANIAN SOLAR ENERGY TEAM VISIT
TAGS: TECH, OTRA, IR
To: TEHRAN
Type: TE
vdkgvwkey: odb://SAS/SAS.dbo.SAS_Docs/6d4e70da-c288-dd11-92da-001cc4696bcc
Review Markings:
Margaret P. Grafeld
Declassified/Released
US Department of State
EO Systematic Review
22 May 2009
Markings: Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review 22 May 2009